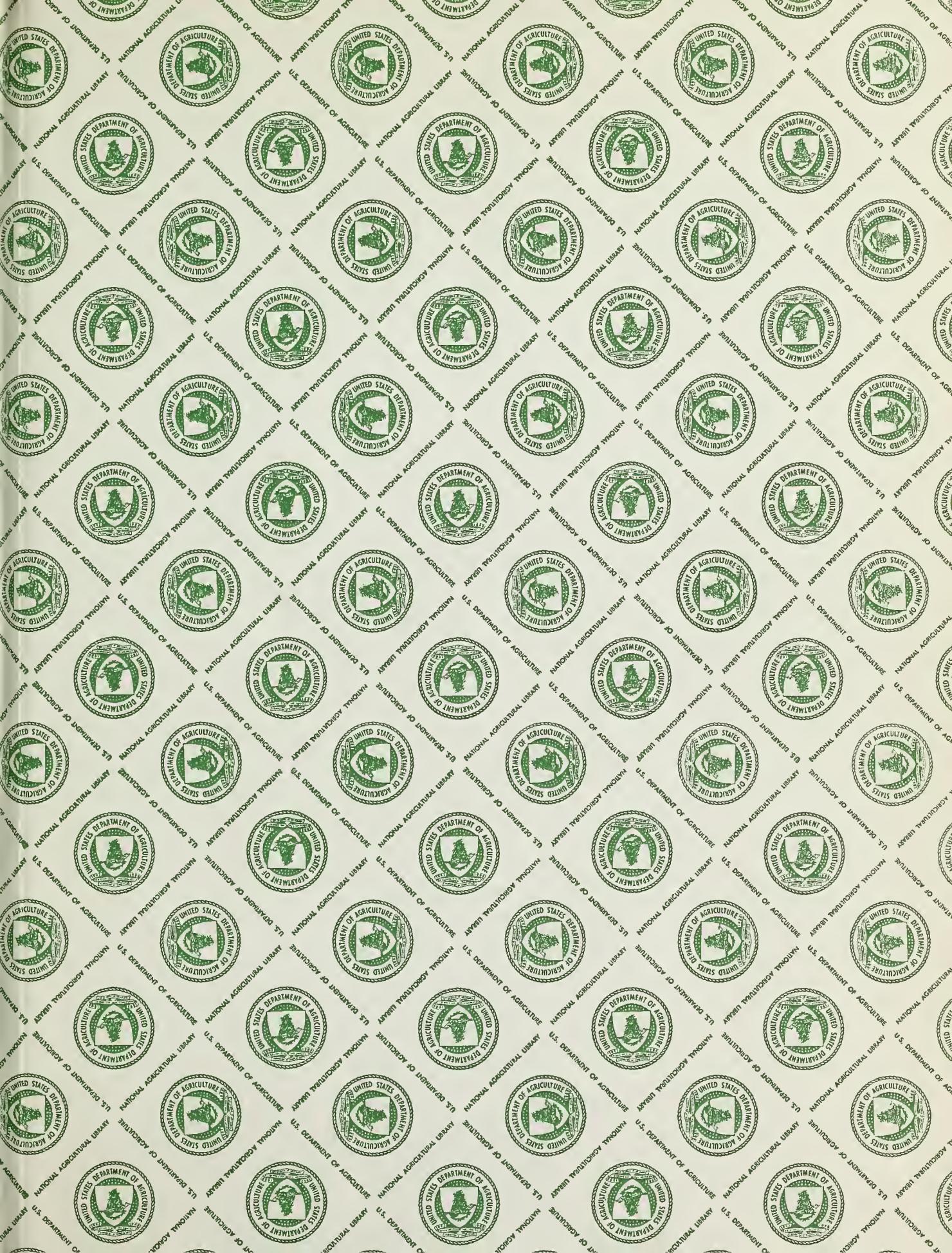


Historic, Archive Document

Do not assume content reflects current
scientific knowledge, policies, or practices.





76
3/FSO
of 2

234599

234539

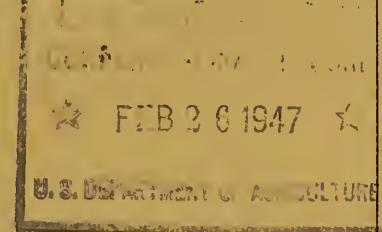


"Welcome Shelter Near Trail's End"

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

FOR OREGON

FEBRUARY 1, 1947



By

Division of Irrigation, Soil Conservation Service

United States Department of Agriculture

and

Oregon Agricultural Experiment Station

Data included in this report were obtained by the agencies named above in cooperation with the Oregon State Engineer, U. S. Forest Service, National Park Service and other Federal, State and local organizations.

TABLE OF CONTENTS

	<u>Page</u>
Water Supply Outlook	1
Preliminary Streamflow Forecasts	2
Snow-Stored Water, February 1 Status	4-5
Snow-Stored Water, February 1, Compared with Previous Years	3
Snow-Stored Water, February 1, Map of	Preceding 1
Snow Course Location Map	Preceding 1
Snow Course Index	Back of Snow Course Map
Snow Survey Measurements	8-13
Reservoir Water	6
Reservoir Location Map	Preceding 7
Valley Precipitation	7
Cooperators, List of	14

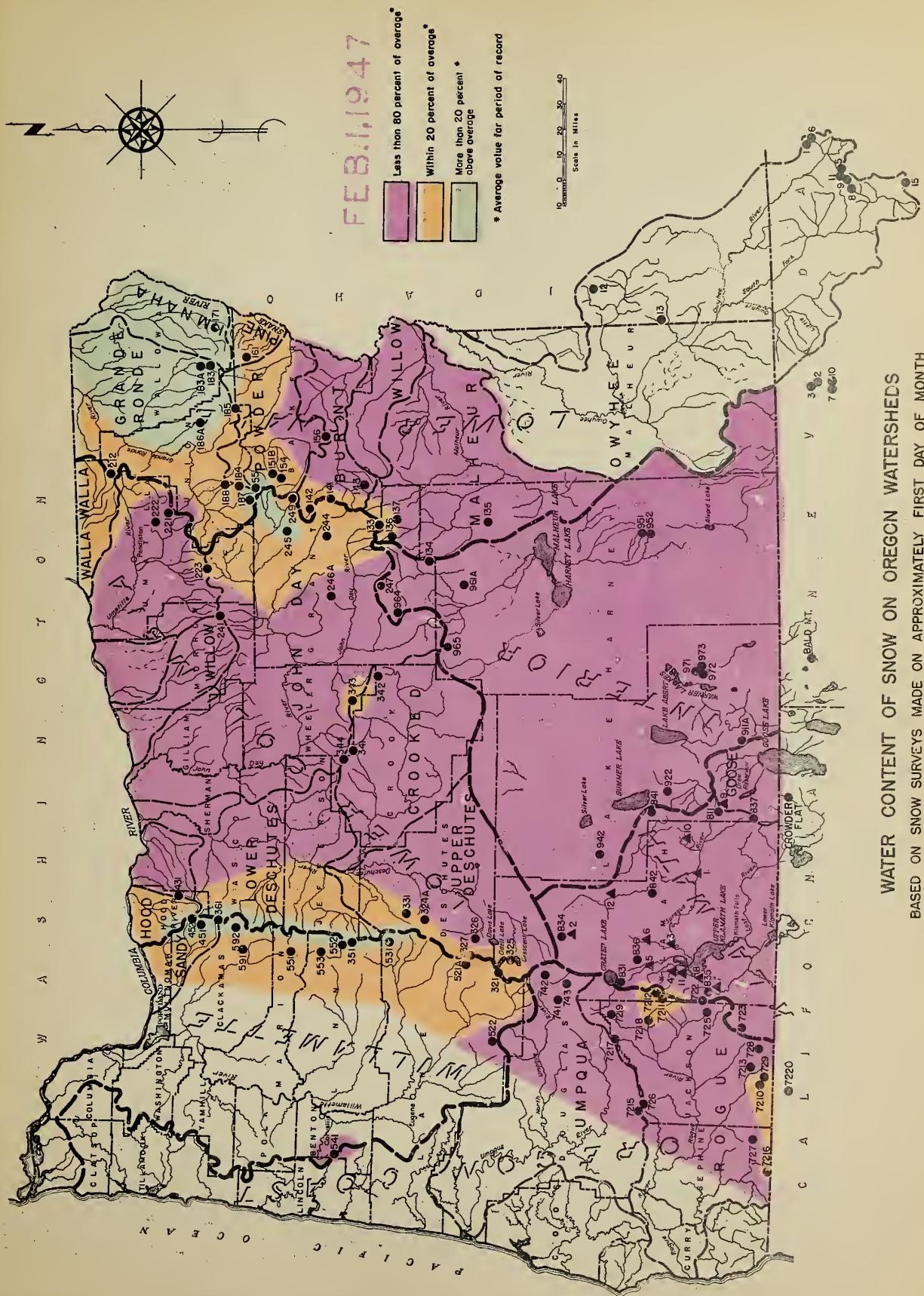
FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND IRRIGATION WATER FORECASTS
FOR
OREGON

Report Prepared

by

W. T. Frost -- Hydraulic Engineer

Division of Irrigation
Soil Conservation Service
and
Oregon Agricultural Experiment Station
P. O. Box 1149
Medford, Oregon



WATER CONTENT OF SNOW ON OREGON WATERSHEDS BASED ON SNOW SURVEYS MADE ON APPROXIMATELY FIRST DAY OF MONTH

**BASED ON SNOW SURVEYS MADE ON APPROXIMATELY
(Valley Lands Not Necessarily Included)**

Number	Name	Elev.	Number	Name	Elev.*	Number	Name	Elev.	Number	Name	Elev.
UPPER COLUMBIA DRAINAGE											
Lower Snake in Oregon											
OWTHE RIVER											
Nev.1	Big Bend	6800	212	Tollgate	5070	551	Breitenbush	2325	SILVER LAKE		
Nev.2	Buckskin, Lower	6800				321	Cascade Summit	4880			
Nev.3	Buckskin, Upper	8200				522	Champion Lake	4500	942	Silver Creek	4900
Nev.4	Fish Creek	7900	222	Emigrant Springs	3925	327	Garrison Lake	57150			
Nev.5	Fry Canyon	6800	223	Lucky Strike	5050	351	Hogg Pass	4755			
Nev.6	Gold Creek Ranger Sta.	6600	221	Meacham	4300	531	McKenzie	4800			
Nev.7	Granite Peak	8600	212	Tollgate	5070	553	Marion Forks	2730			
Nev.8	Jack Creek, Lower	7000				541	Mary's Peak	3620	922	Mill Creek	6200
Nev.9	Jack Creek, Upper	7800				552	Sanium Junction	3390			
Nev.10	Martin Creek	7000				521A	Waldo Lake	5500			
WILLOW CREEK											
New.11	Rodeo Flat	7000	241	Arbuckle Mountain	5400	631	Annie Spring	6018			
Ida.12	Silver City	6400				722	Billie Creek Divide	6000			
251	Silvers	6900				834	Chemult No. 1	964			
Ida.13	South Mountain No. 2	6340				723	Grover Flat	4760			
Nev.15	Taylor Canyon	5200	241	Arbuckle Mountain	5400	520	Hast Prairie Reservoir	5200			
MALEUR RIVER											
133	Blue Mountain Spring	5900	244	Beech Creek Summit	4800	635	Hast Prairie Reservoir	4900			
137	Crane Prairie	5375	244	Blue Mountain Spring	5900	635	Lake of the Woods No. 1	4960			
136	Lake Creek	5120	249	Dixie Springs	5908	611	Quartz Mountain	5320			
134	Rock Spring	5100	249	Gold Center	6650	7211	Seven Lakes No. 1	6800			
135	Stinking Water	4800	964	Olive Summit	5340	7212	Seven Lakes No. 2	6200			
BURNET RIVER											
143	Berney Creek	5950	247B	Oliver Lake	5293	837	Strawberry	5600			
141	Blue Mountain Summit	5098	245	Snow Mountain	6000	841	Summer Rim	7200			
156	Dooley Mountain	5430	965	Snow Mountain	6300	836	Sun Mountain	5350			
142	Tipton	5100	247B	Starr Ridge	5150	842	Taylor Butte	5100			
DESCHUTES RIVER											
143	Berney Creek	5950	326	Caldwell Ranch	4400	911A	Camas Creek	5720			
141	Blue Mountain Summit	5098	321	Cascade Summit	4880	811	Quartz Mountain	5320			
156	Dooley Mountain	5430	327	Charlton Lake	5750	837	Strawberry	5600			
142	Tipton	5100	361	Clear Lake	3500						
POWDER RIVER											
155	Anthony Lake	7125	325	Crescent Lake	4760	522	Champion	726			
154	Bourne	5800	343	Derr	5670	743	Diamond Lake	5315			
156	Dooley Mountain	5430	351	Hogg Pass	4715	7215	Goolaway Gap	3000			
151B	Fillmore Meadow	5400	344	Marke Creek	4340	742	Goolaway Mountain	3730			
249	Gold Center	5340	324A	New Dutchman Flat	6400	741	N.Tumpqua near Lake Creek	4215			
184	Summit Springs	6000	341	Ochoco Meadows	5200	7217	Trap Creek	3800			
185	Taylor Green	5740	965	Snow Mountain	6300		Whaleback	5140			
THREE CREEKS MEADOWS											
331	Three Creeks Meadows	5600	342	Tamarack	4800						
HOOD RIVER											
161	Schneider Meadows	5400	431	Brooks Meadow	4300						
IMAFIA RIVER											
171	Coverdale	4250				1	Beatty	4300			
GRANDE RONDE RIVER						2	Chemult	4761			
183	Aneroid Lake	7480	361	Clear Lake	3500	3	Childquin	4187			
183A	Aneroid Lake No. 2	7000	452	Philo Point - Mt. Hood	5600	4	Cystal	4200			
155	Anthony Lake	7125	451	Still Creek	3700	5	Fort Klamath	4150			
188	Beaver Reservoir	5340				6	Kirk	4533			
187	Camp Carson	5870				7	Lake of the Woods	4960			
184	Moss Spring	5850				8	Pelican Mountain	4200			
184	Summit Springs	6000				9	Quartz Mountain	5504			
184A	Yamsey	12				10	Richardson Ranch	4800			
GOOSE LAKE BASIN											
161	Schneider Meadows	5400				12	Yamsey	4600			
WEST COAST DRAINAGE											
UMPIQUE RIVER											
133	Blue Mountain Spring	5900	244	Blue Mountain Spring	5908	522	Champion	4500			
137	Crane Prairie	5375	249	Gold Center	6650	743	Diamond Lake	5315			
136	Lake Creek	5120	964	Olive Summit	5340	7215	Goolaway Gap	3000			
134	Rock Spring	5100	245	Snow Mountain	6000	742	Goolaway Mountain	3730			
135	Stinking Water	4800	247B	Starr Ridge	5150	741	N.Tumpqua near Lake Creek	4215			
ROGUE RIVER											
161	Schneider Meadows	5400				725	Fish Lake	4865			
INDEX TO THE CALIFORNIA OREGON POWER COMPANY SNOW WATER STATIONS											
171	Coverdale	4250				725	Fish Lake	4865			
183	Aneroid Lake	7480	361	Clear Lake	3500	726	Goolaway Gap	3000			
183A	Aneroid Lake No. 2	7000	452	Philo Point - Mt. Hood	5600	727	Goolaway Mountain	3730			
155	Anthony Lake	7125	451	Still Creek	3700	727	Grayback Peak	6500			
188	Beaver Reservoir	5340				728	Hyatt Prairie Reservoir	4900			
187	Camp Carson	5870				729	Little Red Mountain	6500			
184	Moss Spring	5850				730	Scragg Mountain	6200			
184A	Summit Springs	6000				721	Seven Lakes No. 1	6800			
155	Anthony Lake	7125				721	Seven Lakes No. 2	6200			
188	Beaver Reservoir	5340				7212	Silver Burn	3720			
187	Camp Carson	5870				728	Siskiyou Summit	4630			
184	Moss Spring	5850				7218	South Fork Canal	3500			
184A	Summit Springs	6000				7213	Wager Butte	6900			
155	Anthony Lake	7125				7217	Whaleback	5140			

February 1, 1947

PRELIMINARY WATER SUPPLY OUTLOOK

The annual mid-winter snow surveys indicate Oregon's 1947 water supply prospects are "fair" for the most part with "good" supplies available in the Wallowa, Blue, Elkhorn, and Northern and Central Cascade Mountains. Irrigated lands served chiefly from reservoirs can expect "fair" to "good" supplies provided largely by "hold over" from the heavy 1946 runoff.

Mountain snow cover, as of February 1, is below average on 73 percent of all measured snow courses in Oregon and on nearly all courses below 5000 feet in elevation. Water content of the snow at elevations above 5000 feet is 94 percent of average. Above-normal snow additions during February and March are needed if all irrigated lands are to have a sufficient supply.

Watershed soils are generally well saturated and mostly not frozen under the snow. This condition favors a well sustained runoff from the spring snow-pack.

Total water stored in all reservoirs is 13 percent less than of similar date last year, 26 percent more than of this date in 1945, 9 percent less than in 1944, and is 99 percent of average. 48 percent of important Oregon reservoirs are half full or better.

Precipitation accumulated in Oregon valleys since October 1 is below normal in all parts of the state except the Willamette Valley, Wallowa, and Blue Mountain areas.

Preliminary forecasts of April-September stream flow, based on existing mountain snow cover, and on the assumption that snow cover increase during February and March will be average, are listed on page 2 of this report.

PRELIMINARY STREAMFLOW FORECASTS, February 1, 1947

The following preliminary runoff forecasts are based on present mountain snow cover and on the assumption that average February and March increase of snow cover will occur. Greater or less than average increase in mountain snow cover during the next two months will correspondingly modify these estimates:

BASIN AND STREAM	Apr.-Sept., inc. Streamflow in Thous. Ac.Ft.				
	Forecast 1947	Measured Runoff		10-yr. avg. 1936-45	
		1946	1945	1944	
<u>NORTHCENTRAL OREGON</u>					
Hood River, West Fork near Dee	190.0	a	149.8	106.4	136.5
<u>UMATILLA-WALLA WALLA</u>					
Umatilla River at Pendleton	138.0	a	188.7	122.7	152.4
Walla Walla R., S.Fk., nr. Milton	63.0	a	69.8	55.8	62.8
<u>NORTHEASTERN OREGON</u>					
Wallowa R., E.Fk. plus Power Plant	14.0	a	10.9	8.5	10.1
Hurricane Cr. near Joseph	48.0	a	41.8	32.6	39.4
Lostine R. near Lostine	126.0	a	125.6	89.8	110.2
Bear Creek near Wallowa	63.0	a	65.5	55.3	62.6
Grande Ronde River nr. LaGrande	143.0	a	168.4	93.3	155.0
<u>EASTERN OREGON</u>					
Strawberry Creek nr. Prairie City	7.7	a	8.0	5.1	7.5
Malheur R., Mid.Fk., nr. Drewsey	42.0	a	80.4	27.2	73.2
Malheur R., No. Fk., at Beulah	36.0	a	53.6	29.9	56.9
<u>HARNEY BASIN</u>					
Silvies River near Burns	47.0	a	98.6	22.5	84.4
<u>CENTRAL OREGON</u>					
Ochoco Reservoir Net Inflow	5.0	a	29.6	5.3	18.0
Crescent Lake Net Inflow	14.0	a	11.1	9.2	12.7
Odell Creek near Crescent	27.0	a	24.1	20.1	24.4
Tumalo Creek and Col.So.Canal	41.0	a	38.5	30.5	41.8
Squaw Creek near Sisters	47.0	a	38.4	30.6	44.1
<u>SOUTHCENTRAL OREGON</u>					
Deep Creek above Adel	25.0	a	70.2 ^b	40.1 ^b	62.2 ^b
<u>KLAMATH BASIN</u>					
Upper Klamath Lake Net Inflow	440.0	557.0	409.9	395.9	481.7
<u>SOUTHERN OREGON</u>					
Applegate River near Ruch	112.0	a	114.0	63.9	125.7
Hyatt Prairie Reservoir Net Inflow	4.0	a	5.8	4.2	5.8
Fourmile Lake Net Inflow	6.0	a	7.3	5.9	6.9
Little Butte Creek, N.Fk., below Fish Lake (Natural Flow)	11.5	a	13.8	11.5	13.3
Rogue River No.Fk. above Prospect	240.0	a	295.4	237.3	286.6
Clearwater River above Trap Creek	51.0	a	55.5	55.1	56.8
No. Umpqua River below Lake Creek	127.0	a	148.6	133.7	145.0
No. Umpqua River at Toketee Falls	295.0	a	348.1	295.4	336.8
<u>WILLAMETTE VALLEY</u>					
Willamette River Mid. Fk. at Eula	740.0	a	889.2	555.6	749.4
McKenzie River at McKenzie Bridge	540.0	a	533.9	422.7	512.7
McKenzie River near Vida	1120.0	a	1230.8	862.9	1103.9

a - 1946 Discharge record not available.

b - April-June rather than April-Sept.

COMPARISON OF SNOW COVER AS OF FEBRUARY FIRST WITH THAT OF PREVIOUS YEARS

Snow-stored water now present above 5,000 feet;	150	Snow-stored water now present from 2,000-5,000 feet:	
As percent of that present one month ago	--	As percent of that present one month ago	-- 289
As percent of that present one year ago	-- 56	As percent of that present one year ago	-- 41
As percent of that present two years ago	-- 177	As percent of that present two years ago	-- 200
As percent of average	-- 94	As percent of average	-- 74

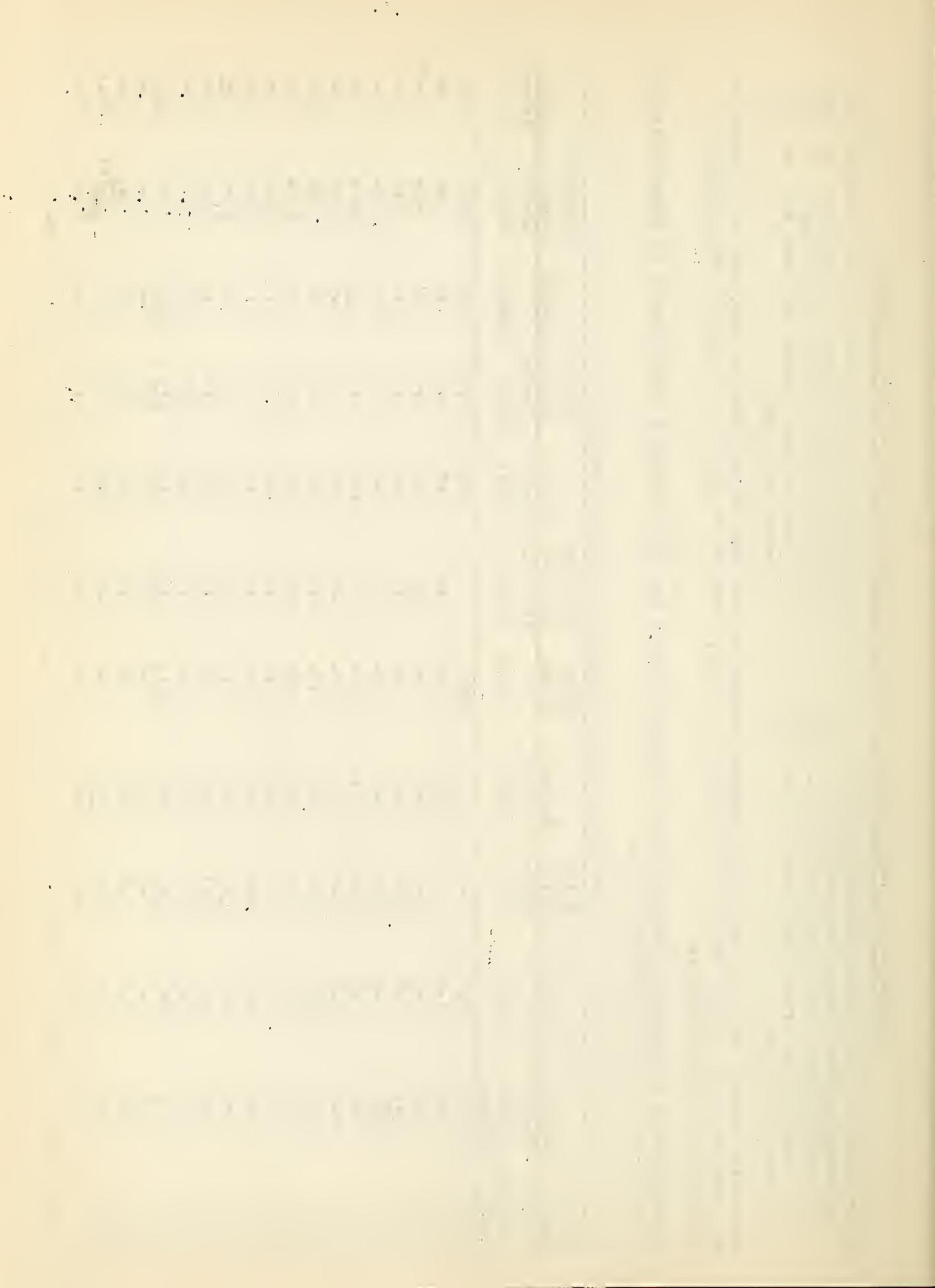
Snow water content on 99 percent of all measured courses is less than at this time in 1946, and in 75 percent of all measured the comparisons is greater than on about February 1, 1945. Snow water content on 73 percent of all measured courses is less than average.

Given below is a tabulation showing inches snow-stored water for the February 1 record period on eleven scattered snow courses of greatest record length.

		Snow Water Content (Inches) as of About February 1										
River	Basin	Walla	Walla	Wallowa	Malheur-	Burnt	Goose	Klamath-	Klamath-	Umpqua	Diamond	
Snow	Deschutes	Umatilla	Aero-	John	Crooked	John	Frogue	Klamath	Klamath	Annie	Lake	
Year	Course	Greeks	Meacham	Lake	Tipton	Springs	Quartz	Mtn.	Chemult	Spring	-	
Year	Meadows											
1929	11.2	9.2	-	7.7	10.1	-	4.3	4.0	6.5	20.3	8.9	
1930	13.1	3.5	-	15.2	3.8	4.4	3.8	6.0	4.6	19.5	5.5	
1931	8.1	6.2	14.1	13.0	8.2	3.6	5.6	4.0	6.1	N.R.	8.4*	
1932	23.4	9.3	23.7	28.4	8.7	13.7	10.0	6.9	12.8	22.3	26.2	
1933	N.R.	5.6	N.R.	26.0	N.R.	13.0	6.5	5.9	11.1	N.R.	27.5	
1934	8.5	0.5	12.5	N.R.	N.R.	N.R.	N.R.	1.0	T	N.R.	5.6	
1935	15.8	5.6	18.2	21.2	N.R.	11.0	9.4	7.7	8.6	33.4	7.6	
1936	N.R.	11.2	27.3	17.3	N.R.	13.4	13.5	11.3	9.4	37.2	12.0	
1937	18.5	9.3	16.6	9.3	N.R.	8.2	6.1	4.1	7.0	N.R.	15.6	
1938	8.2	2.1	9.7	21.0	4.5	9.0	N.R.	N.R.	4.1	22.8	7.9	
1939	10.1	4.0	14.1	13.4	6.8	7.4	5.7	2.2	5.5	26.5	12.2	
1940	4.3	2.3	5.9	16.5	3.1	3.6	1.8	T	5.5	20.5	3.1	
1941	6.8	4.0	14.1	19.3	8.7	15.4	8.6	5.0	8.1	36.3	10.5	
1942	6.6	3.5	7.0	22.4	4.8	6.3	5.9	3.8	6.3	18.1	6.8	
1943	N.R.	10.6	28.3	28.6	13.4	23.0	13.7	9.4	20.5	40.8	29.8	
1944	4.1	3.1	8.4	12.2	3.8	4.0	2.7	2.3	4.2	14.3	7.4	
1945	1.6	4.6	8.2	12.8	8.2	4.9	4.7	4.8	5.7	13.4	4.5	
1946	20.0	9.6	27.1	29.1	9.2	14.1	12.8	7.9	13.9	42.2**	26.1	
1947	10.5	4.4	16.7	25.9	6.9	9.3	2.8	2.6	1.0	20.5	9.3	

Greates and least Feb. 1 water content are underscored. N.R.-No report

T-Trace *-(Feb. 15) **-(Jan. 17)



STATUS OF SNOW COVER AS OF FEBRUARY FIRST
 Summary of Snow Survey Data
 By Watersheds as of About February First

Stream Basin	Number Of Snow Courses	Average Water Depth in Snow Cover (Inches)				Yrs. of Record	1947 Snow Water Depth (Inches) as Percent of that in		
		Averaged	1947	1946	1945		Yrs. of Rec- ord	1946	1945 Avg.
Cwyhee River	1	6.6	15.4					43	
	1	6.6		6.3					105
	1	6.6			9.0	(6)			73
Malheur River	3	3.9	8.8					44	
	3	3.9		3.4					115
	3	3.9			6.0	(9-16)			65
Burnt River	3	5.3	9.5					56	
	3	5.3		5.5					96
	3	5.3			6.4	(8-13)			83
Powder River	3	11.1	15.9					70	
	5	9.4		6.1					154
	5	9.4			9.4	(7-10)			100
Pine Creek	1	13.0	30.2					60	
	1	18.0		9.8					184
	1	18.0			19.0	(9)			95
Grande Ronde River	8	15.8	19.0					83	
	7	17.0		8.3					205
	8	15.8			12.6	(4-18)			125
Walla Walla River	1	16.7	27.1					62	
	1	16.7		8.2					204
	1	16.7			15.7	(15)			106
Umatilla River	4	8.2	14.3					57	
	4	8.2		5.6					146
	4	8.2			8.6	(8-18)			95
Willow Creek	1	5.1	12.4					41	
	1	5.1		5.4					94
	1	5.1			7.3	(17)			70
John Day River	7	6.2	11.2					55	
	8	6.1		3.6					169
	8	6.1			6.6	(7-17)			92
Deschutes River	6	11.8	24.0					49	
	4	15.4		5.3					290
	6	11.8			13.1	(1-16)			90
Crooked River	3	3.0	10.2					29	
	3	3.0		3.6					83
	3	3.0			5.3	(9-17)			57
Sandy River	2	32.0	45.5					70	
	2	32.0		6.4					500
	2	32.0			20.0	(9)			1.60

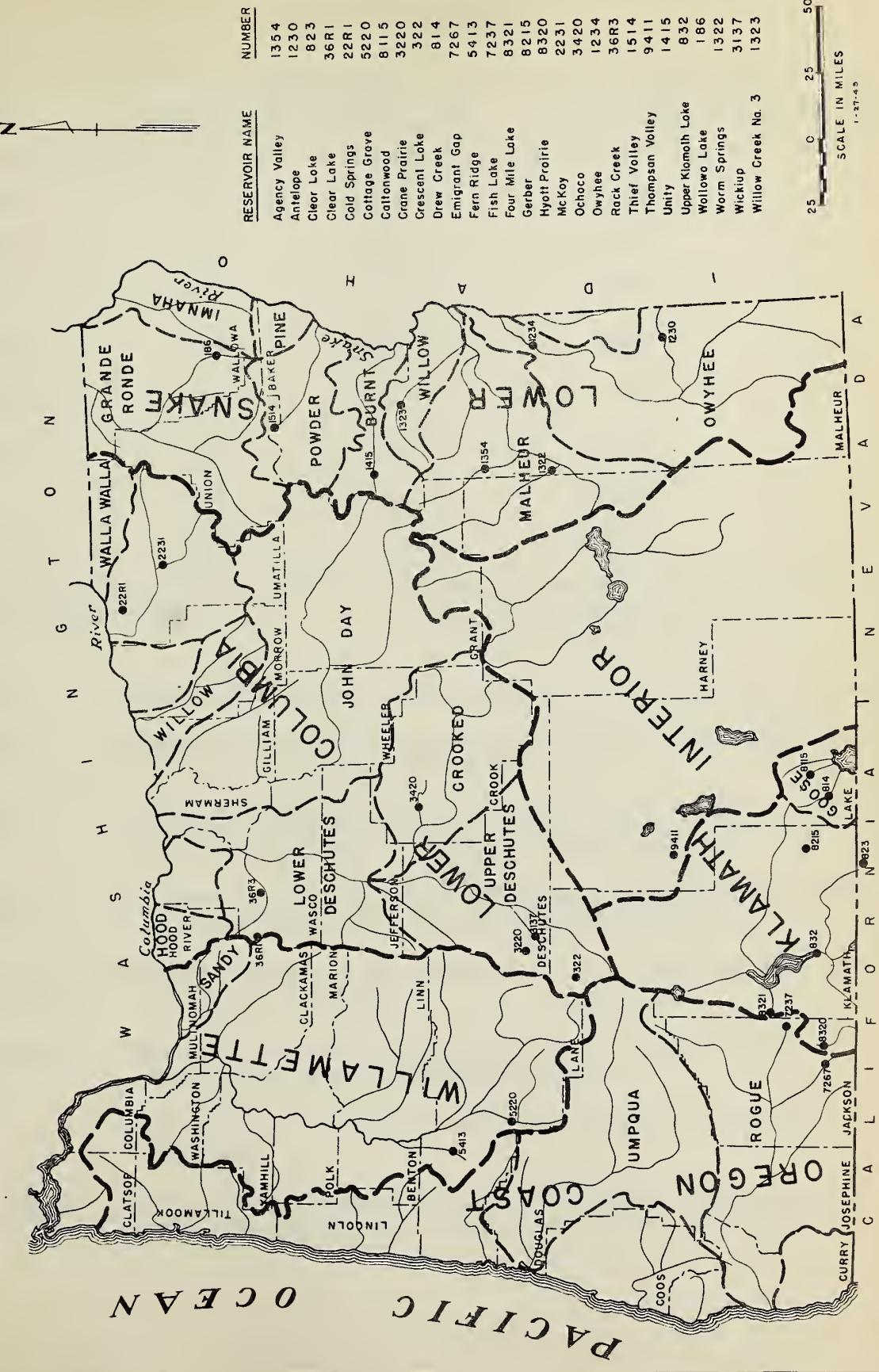
(Continued)

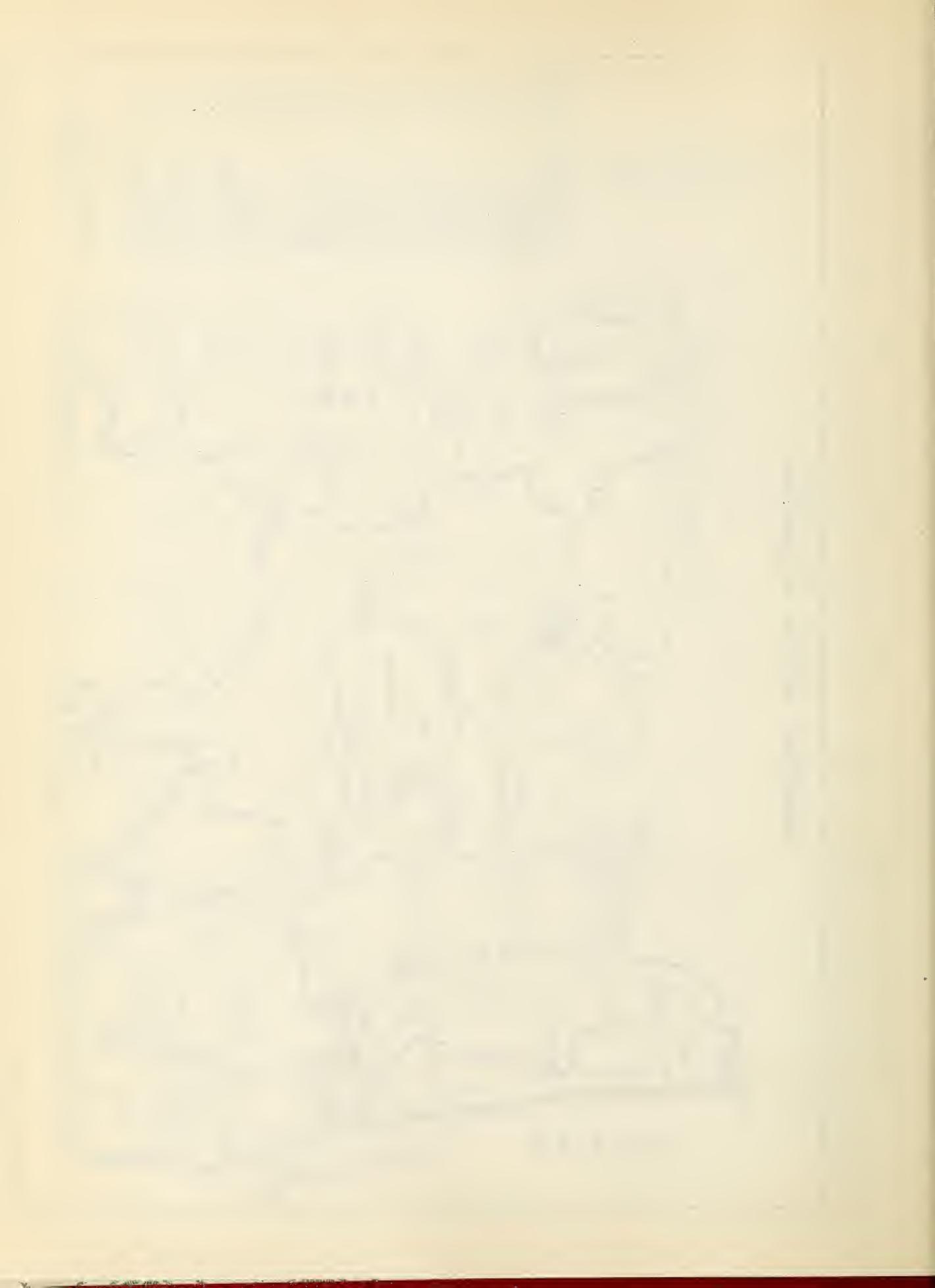
Stream Basin	Number of Snow Courses Averaged	Average Water Depth in Snow Cover (Inches)			Yrs. of Avg. Past Yrs. of Record	Yrs. of Rec- ord	1947 Snow Water Depth (Inches) as Percent of that in 1946 1945 Avg.		
		1947	1946	1945			1946	1945	Avg.
Clackamas River	1	9.3	16.1				58		
	1	9.3		2.7				340	
	1	9.3			8.7	(9)			107
Willamette River	6	13.0	25.5				51		
	6	13.0		4.9				265	
	6	13.0			12.8	(6-16)			102
Harney Basin	4	2.7	7.6				36		
	4	2.7		2.4				112	
	4	2.7			4.6	(5-14)			59
Silver Lake Basin	1	T	4.9				0		
	1	T		0.0				100	
	1	T			3.0	(7)			0
Warner Lake	1	3.1	9.3				33		
	1	3.1		5.0				62	
	1	3.1			7.2	(8)			43
Umpqua River	3	9.4	33.2				28		
	2	7.3		3.8				192	
	5	7.1			10.6	(3-18)			67
Upper Rogue River	11	9.6	24.2				40		
	11	11.1		7.8				142	
	12	11.3			13.6	(1-15)			83
Applegate River	3	8.3	19.1				43		
	5	8.5		4.4				193	
	5	8.5			13.3	(5-11)			64
Illinois River	2	3.0	10.3				29		
	2	3.0		2.0				150	
	2	3.0			8.2	(9-11)			36
Klamath Lake Basin	19*	5.6	15.2				37		
	19*	7.2		5.6				128	
	20*	6.8			9.1	(1-20)			75
Goose Lake Basin	3*	3.2	9.3				34		
	3*	3.2		5.0				64	
	3*	3.2			5.9	(8-17)			54

*Including Copco water measurement stations.

Sample	Location	Depth (m)	Age (yr)						
1	Site A	0	Present	10	~100	20	~200	30	~300
2	Site A	10	~100	20	~200	30	~300	40	~400
3	Site A	20	~200	30	~300	40	~400	50	~500
4	Site A	30	~300	40	~400	50	~500	60	~600
5	Site A	40	~400	50	~500	60	~600	70	~700
6	Site A	50	~500	60	~600	70	~700	80	~800
7	Site A	60	~600	70	~700	80	~800	90	~900
8	Site A	70	~700	80	~800	90	~900	100	~1000
9	Site A	80	~800	90	~900	100	~1000	110	~1100
10	Site A	90	~900	100	~1000	110	~1100	120	~1200
11	Site A	100	~1000	110	~1100	120	~1200	130	~1300
12	Site A	110	~1100	120	~1200	130	~1300	140	~1400
13	Site A	120	~1200	130	~1300	140	~1400	150	~1500
14	Site A	130	~1300	140	~1400	150	~1500	160	~1600
15	Site A	140	~1400	150	~1500	160	~1600	170	~1700
16	Site A	150	~1500	160	~1600	170	~1700	180	~1800
17	Site A	160	~1600	170	~1700	180	~1800	190	~1900
18	Site A	170	~1700	180	~1800	190	~1900	200	~2000
19	Site A	180	~1800	190	~1900	200	~2000	210	~2100
20	Site A	190	~1900	200	~2000	210	~2100	220	~2200
21	Site A	200	~2000	210	~2100	220	~2200	230	~2300
22	Site A	210	~2100	220	~2200	230	~2300	240	~2400
23	Site A	220	~2200	230	~2300	240	~2400	250	~2500
24	Site A	230	~2300	240	~2400	250	~2500	260	~2600
25	Site A	240	~2400	250	~2500	260	~2600	270	~2700
26	Site A	250	~2500	260	~2600	270	~2700	280	~2800
27	Site A	260	~2600	270	~2700	280	~2800	290	~2900
28	Site A	270	~2700	280	~2800	290	~2900	300	~3000
29	Site A	280	~2800	290	~2900	300	~3000	310	~3100
30	Site A	290	~2900	300	~3000	310	~3100	320	~3200
31	Site A	300	~3000	310	~3100	320	~3200	330	~3300
32	Site A	310	~3100	320	~3200	330	~3300	340	~3400
33	Site A	320	~3200	330	~3300	340	~3400	350	~3500
34	Site A	330	~3300	340	~3400	350	~3500	360	~3600
35	Site A	340	~3400	350	~3500	360	~3600	370	~3700
36	Site A	350	~3500	360	~3600	370	~3700	380	~3800
37	Site A	360	~3600	370	~3700	380	~3800	390	~3900
38	Site A	370	~3700	380	~3800	390	~3900	400	~4000
39	Site A	380	~3800	390	~3900	400	~4000	410	~4100
40	Site A	390	~3900	400	~4000	410	~4100	420	~4200
41	Site A	400	~4000	410	~4100	420	~4200	430	~4300
42	Site A	410	~4100	420	~4200	430	~4300	440	~4400
43	Site A	420	~4200	430	~4300	440	~4400	450	~4500
44	Site A	430	~4300	440	~4400	450	~4500	460	~4600
45	Site A	440	~4400	450	~4500	460	~4600	470	~4700
46	Site A	450	~4500	460	~4600	470	~4700	480	~4800
47	Site A	460	~4600	470	~4700	480	~4800	490	~4900
48	Site A	470	~4700	480	~4800	490	~4900	500	~5000
49	Site A	480	~4800	490	~4900	500	~5000	510	~5100
50	Site A	490	~4900	500	~5000	510	~5100	520	~5200
51	Site A	500	~5000	510	~5100	520	~5200	530	~5300
52	Site A	510	~5100	520	~5200	530	~5300	540	~5400
53	Site A	520	~5200	530	~5300	540	~5400	550	~5500
54	Site A	530	~5300	540	~5400	550	~5500	560	~5600
55	Site A	540	~5400	550	~5500	560	~5600	570	~5700
56	Site A	550	~5500	560	~5600	570	~5700	580	~5800
57	Site A	560	~5600	570	~5700	580	~5800	590	~5900
58	Site A	570	~5700	580	~5800	590	~5900	600	~6000
59	Site A	580	~5800	590	~5900	600	~6000	610	~6100
60	Site A	590	~5900	600	~6000	610	~6100	620	~6200
61	Site A	600	~6000	610	~6100	620	~6200	630	~6300
62	Site A	610	~6100	620	~6200	630	~6300	640	~6400
63	Site A	620	~6200	630	~6300	640	~6400	650	~6500
64	Site A	630	~6300	640	~6400	650	~6500	660	~6600
65	Site A	640	~6400	650	~6500	660	~6600	670	~6700
66	Site A	650	~6500	660	~6600	670	~6700	680	~6800
67	Site A	660	~6600	670	~6700	680	~6800	690	~6900
68	Site A	670	~6700	680	~6800	690	~6900	700	~7000
69	Site A	680	~6800	690	~6900	700	~7000	710	~7100
70	Site A	690	~6900	700	~7000	710	~7100	720	~7200
71	Site A	700	~7000	710	~7100	720	~7200	730	~7300
72	Site A	710	~7100	720	~7200	730	~7300	740	~7400
73	Site A	720	~7200	730	~7300	740	~7400	750	~7500
74	Site A	730	~7300	740	~7400	750	~7500	760	~7600
75	Site A	740	~7400	750	~7500	760	~7600	770	~7700
76	Site A	750	~7500	760	~7600	770	~7700	780	~7800
77	Site A	760	~7600	770	~7700	780	~7800	790	~7900
78	Site A	770	~7700	780	~7800	790	~7900	800	~8000
79	Site A	780	~7800	790	~7900	800	~8000	810	~8100
80	Site A	790	~7900	800	~8000	810	~8100	820	~8200
81	Site A	800	~8000	810	~8100	820	~8200	830	~8300
82	Site A	810	~8100	820	~8200	830	~8300	840	~8400
83	Site A	820	~8200	830	~8300	840	~8400	850	~8500
84	Site A	830	~8300	840	~8400	850	~8500	860	~8600
85	Site A	840	~8400	850	~8500	860	~8600	870	~8700
86	Site A	850	~8500	860	~8600	870	~8700	880	~8800
87	Site A	860	~8600	870	~8700	880	~8800	890	~8900
88	Site A	870	~8700	880	~8800	890	~8900	900	~9000
89	Site A	880	~8800	890	~8900	900	~9000	910	~9100
90	Site A	890	~8900	900	~9000	910	~9100	920	~9200
91	Site A	900	~9000	910	~9100	920	~9200	930	~9300
92	Site A	910	~9100	920	~9200	930	~9300	940	~9400
93	Site A	920	~9200	930	~9300	940	~9400	950	~9500
94	Site A	930	~9300	940	~9400	950	~9500	960	~9600
95	Site A	940	~9400	950	~9500	960	~9600	970	~9700
96	Site A	950	~9500	960	~9600	970	~9700	980	~9800
97	Site A	960	~9600	970	~9700	980	~9800	990	~9900
98	Site A	970	~9700	980	~9800	990	~9900	1000	~10000
99	Site A	980	~9800	990	~9900	1000	~10000	1010	~10100
100	Site A	990	~9900	1000	~10000	1010	~10100	1020	~10200
101	Site A	1000	~10000	1010	~10100	1020	~10200	1030	~10300
102	Site A	1010	~10100	1020	~10200	1030	~10300	1040	~10400
103	Site A	1020	~10200	1030	~10300	1040	~10400	1050	~10500
104	Site A	1030	~10300	1040	~10400	1050	~10500	1060	~10600
105	Site A	1040	~10400	1050	~10500	1060	~10600	1070	~10700
106	Site A	1050	~10500	1060	~10600	1070	~10700	1080	~10800
107	Site A	1060	~10600	1070	~10700	1080	~10800	1090	~10900
108	Site A	1070	~10700	1080	~10800	1090	~10900	1100	~11000
109	Site A	1080	~10800	1090	~10900	1100	~11000	1110	~11100
110	Site A	1090	~10900	1100	~11000	1110	~11100	1120	~11200
111	Site A	1100	~11000	1110	~11100	1120	~11200	1130	~11300
112	Site A	1110	~11100	1120	~11200	1130	~11300	1140	~11400
113	Site A	1120	~11200	1130	~11300	1140	~11400	1150	~11500
114	Site A	1130	~11300	1140	~11400	1150	~11500	1160	~11600
115	Site A	1140	~11400	1150	~11500	1160	~11600	1170	~11700
116	Site A	1150	~11500	1160	~11600	1170	~11700	1180	~11800
117	Site A	1160	~11600	1170	~11700	1180	~11800	1190	~11900
118	Site A	1170	~11700	1180	~11800	1190	~11900	1200	~12000
119	Site A	1180	~11800	1190	~11900	1200	~12000	1210	~12100
120	Site A	1190	~11900	1200	~12000	1210	~12100	1220	~12200
121	Site A	1200	~12000	1210	~12100	1220	~12200	1230	~12300
122	Site A	1210	~12100	1220	~12200	1230	~12300	1240	~12400
123	Site A	1220	~12200	1230	~12300	1240	~12400	1250	~12500
124	Site A	1230	~12300	1240	~12400	1250	~12500	1260	~12600
125	Site A	1240	~12400	1250	~12500	1260	~12600	1270	~12700
126	Site A	1250	~12500	1260	~12600	1270	~12700	1280	~12800
127	Site A	1260	~12600	1270	~12700	1280	~12800	1290	~12900
128	Site A	1270	~12700	1280	~12800	1290	~12900	1300	~13000
129	Site A	1280	~12800	1290	~12900	1300	~13000		

IMPORTANT OREGON RESERVOIRS





- 7 -
VALLEY PRECIPITATION^a

DIVISION	CURRENT YEAR		LAST YEAR	
	Oct. 1, 1946 - Feb. 1, 1947	P	Oct. 1, 1945 - Feb. 1, 1946	P
Southeastern	3.5	-0.8	4.94	+0.77
Southcentral	5.9	-1.4	8.54	+1.72
Northcentral	4.6	-0.8	9.28	+3.17
Columbia River	4.7	-1.4	6.99	+0.69
Wallowa Mountains	6.2	-0.2	6.69	-0.38
Blue Mountains	8.6	-0.3	8.87	+0.69
Southern	11.2	-1.6	17.22	+4.75
Willamette Valley	30.4	+2.1	34.83	+6.86

P = Inches Precipitation

D = Inches Departure from Normal

- Southeastern - Southeastern Oregon range lands, Harney and Malheur Counties.
- Southcentral - Southcentral Oregon range lands, Lake County and Klamath County, except the Cascade Mountains.
- Northcentral - Northcentral Oregon wheat and range lands, Crook, Deschutes, Jefferson, Wheeler, and part of Grant Counties.
- Columbia River - Columbia River area, wheat and range lands, Gilliam, Morrow, Sherman, Wasco, and part of Umatilla Counties.
- Wallowa Mountains - Wallowa Mountain area, forest and range lands, Wallowa and part of Baker County.
- Blue Mountains - Blue Mountain forest and range lands, Union and parts of Baker, Grant, and Umatilla Counties.
- Southern - Southern Oregon irrigated section, Jackson and Josephine Counties.
- Willamette Valley - Parts of Polk, Benton, Yamhill, Washington, and Lane; all of Linn, Marion, Clackamas, and Multnomah Counties.

a. Data furnished by U. S. Weather Bureau

OREGON SNOW SURVEYS, FEBRUARY, 1947

DRAINAGE BASIN and SNOW COURSE	LOCATION			SNOW COVER MEASUREMENTS					
	Number or State	Sec. • Twp. • Range	Elev.	Date of Survey (In.)	Snow Depth	Water Content Same Approx. Date (In.)	Years of Av. Water Content	Past Record	
OWYHEE RIVER				1947	1946	1945	1945	Record	(Inches)
South Mountain No. 2	Idaho	35	7S	5W	6340	2-3	21.7	6.6	15.4
MALHEUR RIVER									
Blue Mountain Springs	133	21	15S	35E	5900	1-30	39.1	9.3	14.1
Rock Spring	134	23	18S	32E	5100	1-31	12.4	2.3	6.0
Stinking Water	135	33	21S	34E	4300	2-1	2.0 ^a	Trace	6.3
BURNT RIVER									
Blue Mountain Summit	141	6	12S	36E	5098	1-31	25.6	5.1	9.5
Dooley Mountain	156	32	11S	40E	5430	2-3	14.4	3.9	9.8
Tipton	142	34	10S	35½E	5100	1-27	13.7	6.9	9.2
POWDER RIVER									
Anthony Lake	155	18	7S	37E	7125	2-4	69.3	*25.6	27.8
Bourne	154	33	8S	37E	5800	1-28	34.2	7.9	-
Dooley Mountain	156	32	11S	40E	5430	2-3	14.4	3.9	4.0
Eilertson Meadows	151B	18	8S	38E	5400	1-31	17.6	3.7	8
Gold Center	249	21	9S	36E	5340	1-29	25.8	5.7	4.9
PINE CREEK									
Schneider Meadows	161	35	6S	45E	5400	1-28	55.0	18.0	30.2

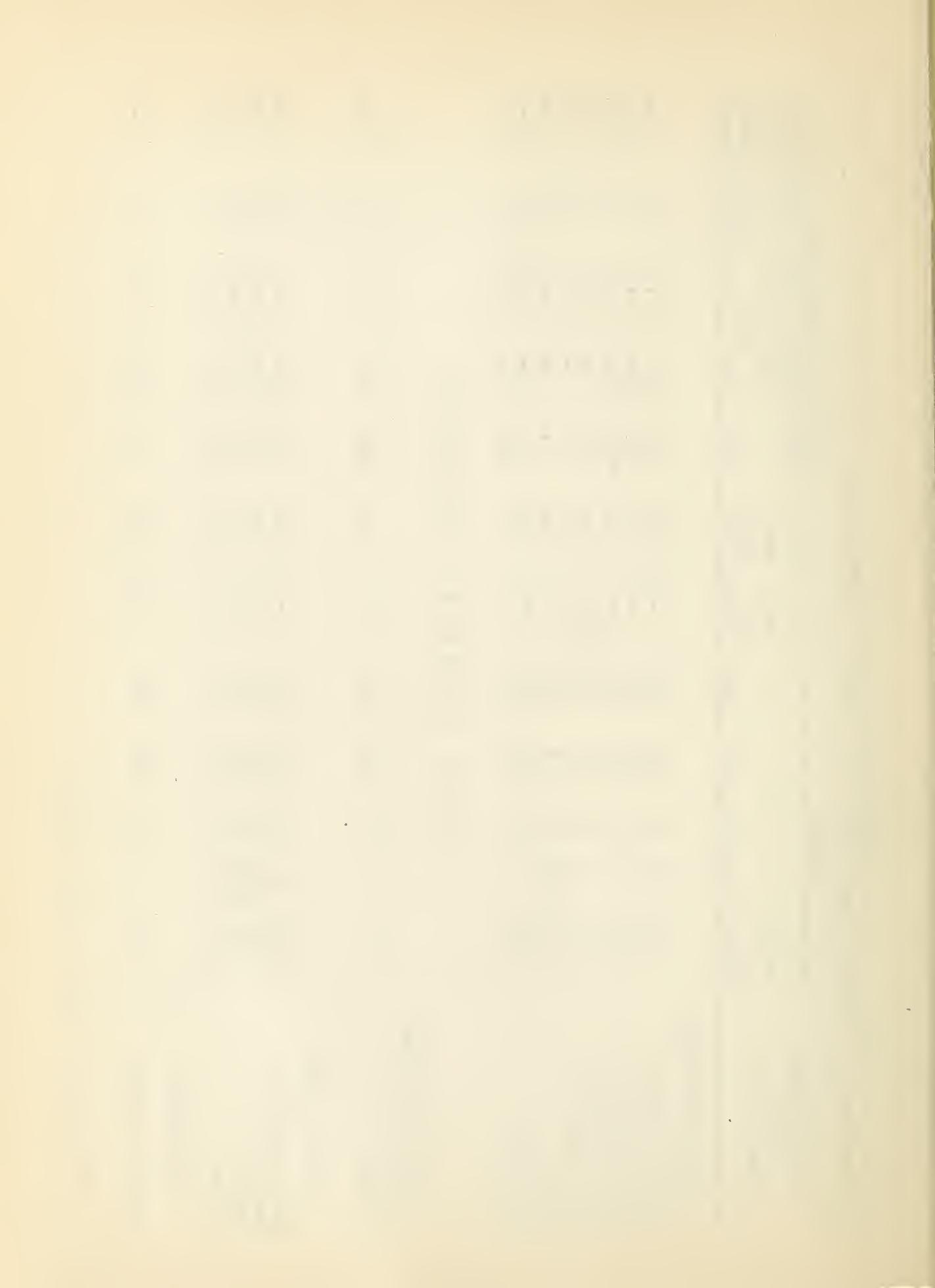
a - Estimated

*Telegraphic: subject to minor revision

OREGON SNOW SURVEYS, FEBRUARY, 1947

DRAINAGE BASIN and SNOW COURSE	LOCATION				SNOW COVER MEASUREMENTS					
	Number or State	Sec.	Twp.	Range	Date of Survey (In.)	Snow Depth (In.)	Same Approx. Date	Years of Survey	Past Record	Av. Water Content of Content (Inches)
					1947	1946	1945	Record	10	1
GRANDE RONDE RIVER										
Aneroid Lake No. 1	183	16	4S	45E	74.80	1-25	74.3	25.9	12.8	18.4
Aneroid Lake No. 2	183A	16	4S	45E	7000	1-25	56.5	20.5	23.3	8.3
Anthony Lake	155	18	7S	37E	7125	2-4	69.3	*25.6	27.8	17.0
Beaver Reservoir	188	8	5S	37E	5340	Abt. 2-1	22.5	*7.8	8.7	17.3
Camp Carson	187	33	6S	36E	5970	2-1	31.9	7.4	8.0	-
Meacham	221	24&25	1S	35E	4300	1-27	14.3	4.4	9.6	4.6
Moss Spring	186A	23	3S	41E	5850	1-31	66.1	17.8	18.7	7.6
Tollgate	212	32	4N	38E	5070	1-27	49.8	16.7	27.1	8.2
										15.7
										1
L C W E R C O L U M B I A D R A I N A G E										
WALLA WALLA RIVER										
Tollgate	212	32	4N	39E	5070	1-27	49.8	16.7	27.1	3.2
										15.7
UMATILLA RIVER										
Emigrant Springs	222	29	1N	35E	3925	1-27	10.3	3.3	10.2	3.5
Lucky Strike	223	26	5S	32E	5050	1-23	29.6	8.2	10.4	6.0
Meacham	221	24&25	1S	35E	4300	1-27	14.3	4.4	9.6	4.6
Tollgate	212	32	4N	38E	5070	1-27	49.8	16.7	27.1	8.2
										15.7
WILLOW CREEK										
Arbuckle Mountain	241	33	4S	29E	5400	1-31	25.2	5.1	12.4	5.4
										17
										7.3

*Telegraphic: subject to minor revision



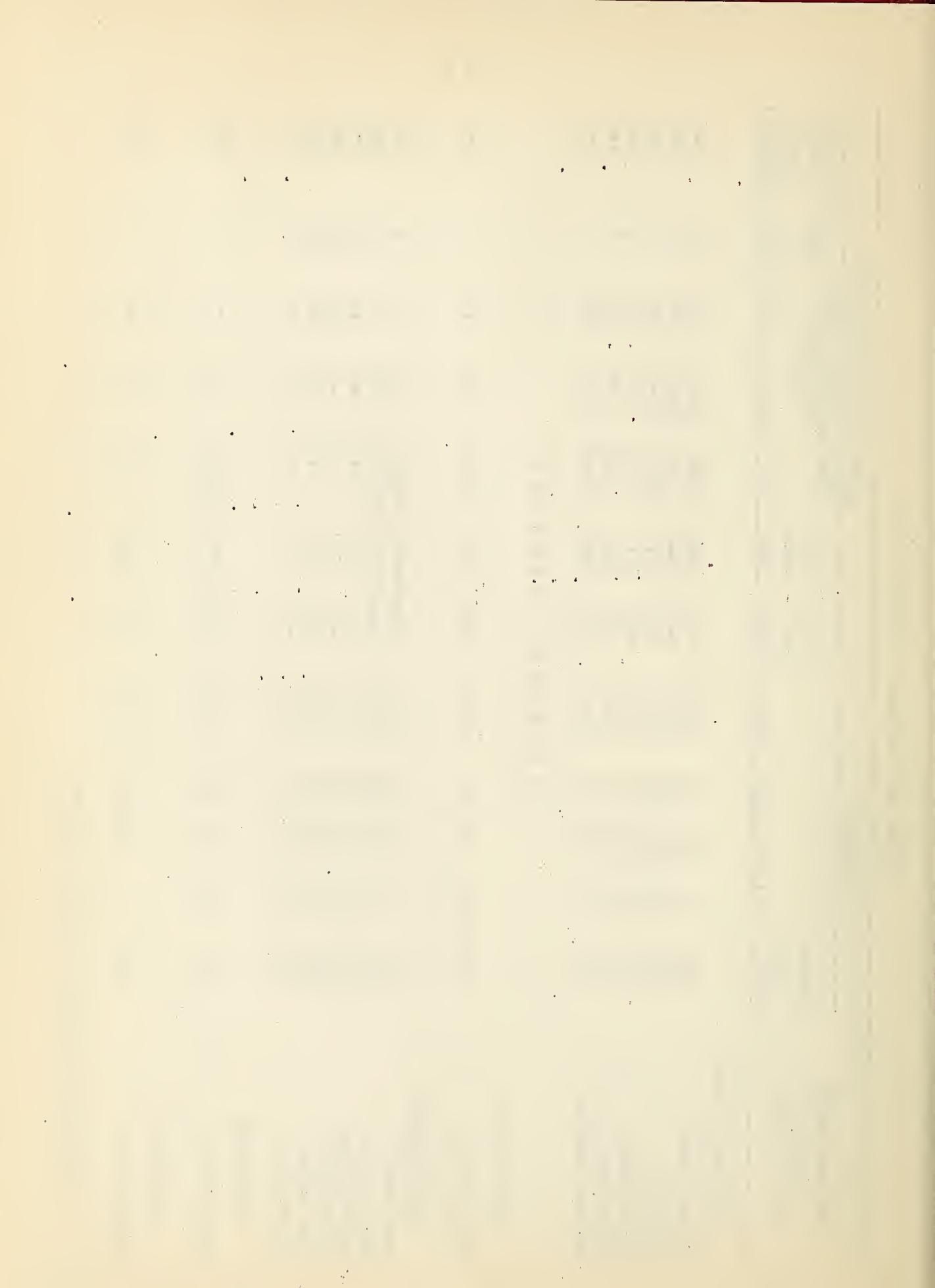
OREGON SNOW SURVEYS, FEBRUARY, 1947

DRAINAGE BASIN and SNOW COURSE	Number or State	LOCATION			Date of Survey (In.)	SNOW COVER MEASUREMENTS			Past Record Same Approx. Date 1946	Av. Water Content of Snow Depth Survey (In.)	Record (Inches)
		Sec.	Twp.	Range		1947	1945	1946			
JOHN DAY RIVER											
Arbuckle Mountain	241	33	4S	29E	5400	1-31	25•2	5•1	12•4	5•4	17•3
Beech Creek Summit	246A	4	12S	30E	4800	1-31	11•2	1•8	7•4	1•6	10•0
Blue Mountain Springs	133	21	15S	35E	5900	1-30	39•1	9•3	14•1	4•9	16•6
Blue Mountain Summit	141	6	12S	36E	5098	1-31	25•6	5•1	9•5	3•4	12•5
Gold Center	249	21	9S	36E	5340	1-29	25•8	5•7	-	4•9	7•0
Izze Summit	964	28	16S	29E	5295	1-30	16•6	3•7	10•7	2•3	11•7
Olivio Lake	245	14	6S	33 $\frac{1}{2}$ E	6000	1-30	55•7	15•6	16•1	4•6	11•6
Starr Ridge	247B	20	15S	31E	5150	1-30	11•8	2•6	8•0	1•7	11•4
DESCHUTES RIVER											
Caldwell Ranch	326	30	21S	8E	4400	1-31	19•8	3•3	12•5 ^b	-	6•2
Cascade Summit	321	7	23S	6E	4880	2-4	56•2	*18•0	35•3	8•7	18•7
Crescent Lake	325	11	24S	6E	4760	2-4	15•1	*1•2	19•2	1•9	8•5
Derr	343	14	13S	23E	5670	1-31	24•4	5•4	10•5	4•2	5•8
Hogg Pass	351	24	13S	7 $\frac{1}{2}$ E	4755	2-3	87•2	*29•1	42•0	9•0	21•0
Marks Creek	344	25	12S	19E	4540	1-30	5•2	0•7	7•3	1•8	3•4
Ochoco Meadows	341	21	13S	20E	5200	1-31	14•0	2•8	12•8	4•7	17•6
Rock Creek	362	1	4S	10E	4200	1-29	20•6	5•6	14•7	-	1•7
Three Creeks Meadows	331	3	17S	9E	5600	2-2	39•8	*10•5	20•0	1•6	10•7
SANDY RIVER											
Phlox Point - Mt. Hood	452	6	3S	9E	5600	Abt.2-1	127•8	*49•2	63•0	10•0	9•7
Still Creek	451	25	3S	8 $\frac{1}{2}$ E	3700	Abt.2-1	40•4	*14•9	28•0	2•9	10•4
CLACKAMAS RIVER											
Peavine Ridge	591	14&15	6S	7E	3500	2-5	31•1	9•3	16•1	2•7	9•7

* Telegraphic: subject to minor revision

b - January 14

OREGON SNOW SURVEYS, FEBRUARY, 1947



OREGON SNOW SURVEYS, FEBRUARY, 1947

DRAINAGE BASIN and SNOW COURSE	LOCATION			SNOW COVER MEASUREMENTS											
	Number or State	Sec.	Twp.	Range	Elev.	Survey (In.)	Date of Snow Depth	Water Content Same Approx.	Years Av. Water Date of Content						
							1947	1946	1945						
W E S T C O A S T D R A I N A G E															
UMPQUA RIVER															
Champion	522	12	23S	1E	4500	1-30	36.4	5.3	3.2						
Diamond Lake	743	29	27S	6E	5315	1-29	33.3	9.3	4.5						
N.Umpqua nr.Lake Cr.	742	19	26S	6E	4215	1-28	10.8	3.8	-						
Trap Creek	741	1	27S	4E	3800	1-28	14.2	3.8	-						
Whaleback	7217	3	31S	2E	5140	1-30	53.3	13.5	45.3						
ROGUE RIVER															
Althouse	7216	17	41S	7W	4400	1-31	12.6	2.2	0.8						
Annie Spring	831	19	51S	6E	6013	1-27	54.4	20.5	42.2 ^b						
Big Red Mountain	729	31	40S	1W	6500	2-4	43.4	14.1	13.4						
Billie Creek Divide	722	30	36S	5E	6000	1-28	29.8	9.8	24.6						
Fish Lake	725	3	37S	4E	4865	1-29	19.1	6.0	24.8						
Grayback Peak	727	9	40S	5W	6000	1-31	15.0	3.9	16.8						
Hyatt Prairie Reservoir	723	15	39S	3E	4900	1-30	16.0	2.9	18.1						
Little Red Mountain	7210	25	40S	2W	6500	2-4	28.9	10.2	11.0						
Park Headquarters	838	8	31S	6E	6450	1-27	78.4	29.9	-						
Scragg Mountain (Calif.)	7220	9	47N	10W	6200	1-25	18.1	7.3	-						
Seven Lakes No. 1	7211	3	34S	5E	6800	1-30	70.2	21.1 ^c	48.0						
Seven Lakes No. 2	7212	26	33S	5E	6200	1-29	58.0	17.4 ^c	43.7						
Silver Burn	7219	30	30S	4E	3720	1-31	20.7	3.7	11.8						
Siskiyou Summit	728	17	40S	2E	4630	1-27	8.5	1.9	5.1						
South Fork Canal	7218	12	33S	3E	3500	2-1	13.0	2.3	2.4						
Wagner Butte	7213	1	40S	1W	6900	1-31	27.6	7.0	14.6						
Whaleback	7217	3	31S	2E	5140	1-30	56.3	13.5	45.3						

b - January 17

c - Water content partly estimated

12.6

12.5

3.0

3.0

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

21.6

OREGON SNOW SURVEYS, FEBRUARY, 1947

DRAINAGE BASIN and SNOW COURSE	Number or State	LOCATION				SNOW COVER MEASUREMENTS			
		Sec.	Twp.	Range	Elev.	Date of Survey (In.)	Snow Depth (In.)	Water Content (In.)	
				1947	1946	1945	Years Av. Water of Content Record (Inches)		
KLAMATH LAKE BASIN									
Annie Spring	831	19	31S	6E	6018	1-27	54.4	20.5	
Beatty <u>2/</u>	22	36S	12E	4300	1-31	5.5	1.0	42.2 ^b	
Billie Creek Divide	722	30	36S	5E	6000	1-28	29.8	9.8	
Bly 101 Ranch <u>2/</u>	22	35S	14E	4800	1-31	6.0	0.8	24.8	
Chemult No. 1	834	21	27S	8E	4760	1-31	11.4	1.0	
Chiloquin <u>2/</u>	34	34S	7E	4187	1-31	6.0	0.8	1.0 ^a	
Crowder Flat (Calif.)	30	47N	11E	5200	1-31	3.9	0.6	0.0	
Crystal <u>2/</u>	26	34S	6E	4200	1-31	18.0	3.0	-	
Fort Klamath <u>2/</u>	22	35S	7½E	4150	1-31	7.5	1.1	17	
Harriman Lodge <u>2/</u>	3	36S	6E	4200	1-31	14.5	2.4	3.2	
Hyatt Prairie Reservoir	723	15	39S	3E	4900	1-30	13.0	2.9	
Kirk <u>2/</u>	1	33S	7E	4533	1-31	8.0	1.9	1.1 ^c	
Lake of the Woods No. 1	335	11	37S	5E	4960	1-31	17.0	5.9	
Park Headquarters	838	8	31S	6E	6450	1-27	73.4	29.9	
Quartz Mountain	811	2	38S	16E	5320	1-31	9.2	2.6	
Quartz Mountain <u>2/</u>	33	37S	16E	5504	1-31	12.0	4.0	7.9	
Seven Lakes No. 1	7211	5	34S	5E	6800	1-30	70.0	21.1 ^c	
Seven Lakes No. 2	7212	26	33S	5E	6200	1-29	58.0	17.4 ^c	
Sun Mountain	836	22	32S	7½E	5350	abt. 1-31	45.4	11.8	
Taylor Butte	842	16	33S	11E	5100	1-30	4.8	0.6	
GOOSE LAKE BASIN									
Camas Creek	911A	5	39S	21E	5720	1-30	16.4	3.1	
Quartz Mountain	311	2	58S	16E	5320	1-31	9.2	2.6	
Quartz Mountain <u>2/</u>	33	37S	16E	5504	1-31	12.0	4.0	7.9	

a - estimated

b - January 17

c - Water content partly estimated

260 - 261 (1973) 100-102

262 (1973) 103-106

263 (1973) 107-110

264 (1973) 111-114

265 (1973) 115-118

266 (1973) 119-122

267 (1973) 123-126

268 (1973) 127-130

269 (1973) 131-134

270 (1973) 135-138

271 (1973) 139-142

272 (1973) 143-146

273 (1973) 147-150

The following organizations cooperate in the Oregon snow survey work:

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon State Engineer and corps of State Watermasters
Oregon State Highway Engineers

FEDERAL

Department of Agriculture
Forest Service
Soil Conservation Service
Department of Commerce
Weather Bureau
Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
Indian Service
National Park Service
War Department
Army Engineer Corps

PUBLIC UTILITIES

California-Pacific Utilities Company
Portland General Electric Company
The California Oregon Power Company

MUNICIPALITIES

City of Corvallis
City of LaGrande
City of The Dalles

IRRIGATION DISTRICTS

Associated Ditch Companies
Central Oregon Irrigation District
Deschutes County Municipal Improvement District
Grants Pass Irrigation District
Jordan Valley Irrigation District
Lakeview Water Users Incorporated
Medford Irrigation District
Ochoco Irrigation District
Rogue River Irrigation District
Talent Irrigation District
Vale-Oregon Irrigation District
Warmsprings Irrigation District

PRIVATE CORPORATIONS

Amalgamated Sugar Company

